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Preface

This manual is designed to assist users in setting up and using the LCD Monitor. Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic or other means, in any form, without prior written permission of the manufacturer.

FCC Statement Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning

Use only shielded signal cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for comliance could viold your authority to operate the equipment.

Canadian DOC Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B repecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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Important Safety Instructions

Please read the following instructions carefully. This manual should be retained for future use.

1. To clean LCD Monitor screen;
   -- Power off LCD Monitor and unplug the AC Cord.
   -- Spray a non-solvent cleaning solution onto a rag.
   -- Gently clean the screen with dampened rag.
2. Do not place the LCD Monitor near a window. Exposing the monitor to rain water, moisture or sunlight can severely damage it.
3. Do not apply pressure to the LCD screen. Excess pressure may cause permanent damage to the display.
4. Do not remove the cover or attempt to service this unit by yourself. Servicing of any nature should be performed by an authorized technician.
5. Store LCD Monitor in a room with a room temperature of 5° ~ 40°C (or 41° ~ 104°F). Storing the LCD Monitor outside this range could result in permanent damage.
6. If any of the following occurs, immediately unplug your monitor and call an authorized technician.
   * Monitor to PC signal cable is frayed or damaged.
   * Liquid spilled into LCD Monitor or the monitor has been exposed to rain.
   * LCD Monitor or the case is damaged.
7. For use only with AC adapter, Li-shin LSE9901B1260 or LAE LAD6019AB5.

Chapter 1 Installation

1.1 Unpacking

Before unpacking the LCD Monitor, prepare a suitable workspace for your Monitor and computer. You need a stable and clean surface near a wall power outlet. Make sure that LCD Monitor has enough space around it for sufficient airflow. Though the LCD Monitor uses very little power, some ventilation is needed to ensure that the Monitor does not become too hot.

After you unpack the LCD Monitor, make sure that the following items were included in the box:

- Main body x1
- Power supply x1
- 1.8M VGA cable x1
- 1.8M Audio cable x1
- User manual x1

If you find that any of these items is missing or appears damaged, contact your dealer immediately.

1.2 Pull down the base

When you open the box to take the product out then pull down the base first (See figure 1-1)

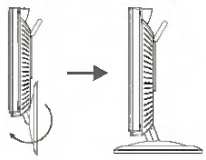

Figure 1-1

1.3 Viewing Angle Adjustment

The LCD Monitor is designed to allow users to have a comfortable viewing angle. The viewing angle can be adjusted from -5°to +25°.(See fig. 1-2)

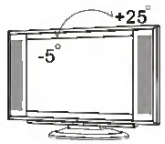

Figure 1-2

When you want to close the base and body to 90°, you need to release a button from 25°. (See fig. 1-3)

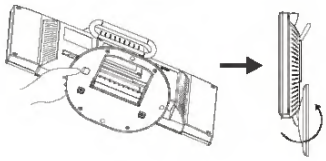

Figure 1-3

Warning: Do not force the LCD Monitor over its maximum viewing angle settings as stated above. Attempting this will result in damaging the Monitor and Monitor stand.

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1.4 Detaching LCD Monitor from Its Stand

1. Remove the rear cover from neck ❶ (See Figure 1-4)
2. Unscrew screws of the hinge bracket ❷
3. Remove the stand from main body ❸

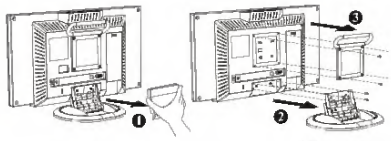

Figure 1-4

1.5 Interface for Arm Applications

Before installing to mounting device, please refer to Fig.1-4.
The rear of this LCD display has four integrated 4 mm, 0.7 pitches threaded nuts, as well as four 5 mm access holes in the plastic covering as illustrated in Figure 1-5. These specifications meet the **VESA Flat Panel Monitor Physical Mounting Interface Standard** (paragraphs 2.1 and 2.1.3, version 1, dated 13 November 1997).

Note :Please using Ø 4mm x 8mm (L) screw for this application.

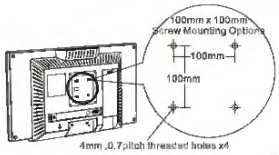

Figure 1-5

1.6 System Installation

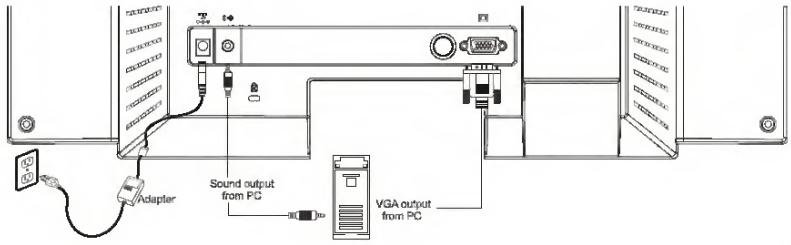

Figure 1-6

1.6.1 Connecting the Display

1. Power off your computer.
2. Connect one end of the signal cable to the LCD Monitor's VGA port.(See Fig 1-6)
3. Connect the other end of the signal cable to the VGA port on your PC.
4. Make sure connection are secure.

Attention: *This device must be connected to an off-the-shelf video cable in order to comply with FCC regulations. A ferrite-core interface cable is included in the LCD Monitor package.*
This device will not be in compliance with FCC regulations when a non-ferrite-core video cable is used.

1.6.2 Connecting the AC Power

1. Connect the power cord to the AC adapter.
2. Connect the AC adapter's DC output connector to the DC Power Jack of the monitor.
3. Connect the power cord to an AC power source.

1.6.3 Connecting the Audio Cable

1. Connect the audio cable to the " LINE OUT " jack on your PC's audio card or to the front panel's "AUDIO OUT" jack of your CD ROM drive.
2. Connect the other end of the audio cable to the LCD Monitor's " LINE IN " jack.

1.7 Power Management System

This LCD Monitor complies with the VESA DPMS (version 1.0) Power Management guidelines. The VESA DPMS provides four power saving modes through detecting a horizontal or vertical sync. signal.
When the LCD Monitor is in power saving mode, the monitor screen will be blank and the power LED indicator will light orange.

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Chapter 2 Display Controls

2.1 User Controls

A brief description and the location of all LCD Monitor function controls and indicators:

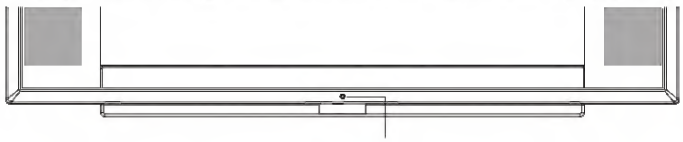

Figure 2-1

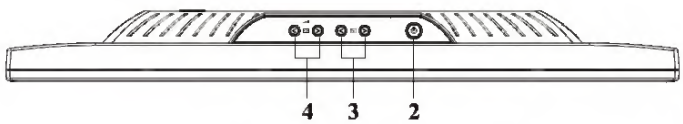

Figure 2-2

1	o	**Indicator for Power**	LED lights Green color --- Power is ON. LED lights Orange --- Monitor is in "Power Saving Mode". LED is off --- Power is OFF.
2		**Power**	Turn on or off the main body.
3		**Function Select**	OSD function for selecting.
4		**Adjustment**	OSD function for adjusting / Volume adjusting.

2.2 Adjusting the Monitor's Display

The monitor has six function control buttons to select among functions shown on OSD menu, designed for easy user-viewing environments.

2.2.1 OSD Function Menu

To access OSD Main menu, simply press menu button and the menu diagram will pop up on the screen as shown on.
Continue pressing the Function Select buttons to scroll through the entire menu items ,then press Adjustment Control buttons to adjust content of selected item.

Attention

Firmware revision may have been updated into a latest version while the version number shown on all OSD menus in this manual will stay as Ver. 1.00.

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2.2.2 *Function Description*

Icon	Function	Function Description
	Brightness	101 scales of brightness are available to choose from (0 to 100).
	Contrast	101 scales of contrast are available to choose from (0 to 100).
	H. Position	This function let's you adjust the display's horizontal position (No such function in 4:3 mode.)
	V. Position	This function let's you adjust the display's vertical position. (No such function in 4:3 mode.)
	Aspect	This function can select 16:9 or 4:3 mode. It is not available when horizontal signal ≥1280 is input.
	OSD Transparency	This function let's you set the transparency of the OSD menu. The transparency is adjustable from 0% to 10%. 11 scales are available.
	Phase	A total of 256 scales (0 to 255) are available to adjust the focus and clarity of the display.
	Clock	This function carries a frequency-tracking feature that offers users better stability and clarity. 101 scales (from -50 to +50) are available on the mode that is currently running. The adjustable range can be variable in different modes. This function records the deviated number of clock period between input timing and supported timing. The clock value may not be"0" after Auto Adjustment when the input timing is different from supported timing. (No such function in 4:3 mode.)
	Color Temperature	Push the ( ) button to select a different color temperature. Please see the diagram below for function and description.
	OSD H. Position	This function moves the OSD menu window horizontally.
	OSD V. Position	This function moves the OSD menu window vertically.
	Graph / Text	Because the H and V-Frequencies of both 640 x 400 70Hz, and 720 x 400 70Hz, are the same, this function let's you manually select either 640 x 400 (graphics mode), or 720 x 400 (text mode).
	Recall	The recall function will return all adjusted parameters to factory preset values.
	Language	Nine OSD language options are available. Press the left or right adjustment control button to select other language.
	Auto and Input Select	Press (<) button ( ) to activate the selected function, Auto Adjustment, Use Analog Input or Use Digital Input. The Auto Adjustment function let you adjust the display size, clock and phase to obtain the best viewing settings. This process will take 3 ~ 5 seconds to complete. **Attention :** After Auto Adjustment, the display might display wrong position or size, if it has received a pattern which has no screen border. You may select either Analog or Digital Input video when VGA input or/and DVI Input is/are available.
	Exit	Saves the values of this setting and exits the OSD menu function.

Icon	Description	
9300	Set CIE coordinated at 9300°K color temperature.	
6500	Set CIE coordinated at 6500°K color temperature.	
7500	Set CIE coordinated at 7500°K color temperature.	
USER	There are 3 colors (Red, Green, Blue) for user to adjust from OSD menu.	
	R	Adjust Red color on screen.
	G	Adjust Green color on screen.
	B	Adjust Blue color on screen.

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Chapter 3 Technical Information

3.1 Specifications

LCD Panel

Size	17" (43 cm)
Display Type	Active matrix color TFT LCD
Resolution	1280 x 768
Display Dot	1280 x (RGB) x 768
Display Area (mm)	369.6 x 221.7 (H x V)
Display Color	16.7M
Brightness	450 cd/m^2 (typical)
Contrast Ratio	600:1 (typical)
Response Time	Ta=25°C T on=15ms T off=10ms
Lamp Voltage	630 Vrms (typical)
Lamp Current	10.5 mA rms. (typical)
Viewing Angle	Vertical: -85° ~ +85° Horizontal: -85° ~ +85°

Video

Input Signal	Analog RGB 0.7Vp-p
Input Impedance	75 Ohm ± 2%
Polarity	Positive, Negative
Amplitude	0 - 0.7 ± 0.05 Vp
Multi-mode Supported	Horizontal Frequency: 24 ~ 60 KHz Vertical Frequency: 56 ~ 75 Hz

Speaker 2 W, 4 OHM

Control

Power switch (hard and soft types)	On/Off switch with LED indicator

OSD

Brightness	Digital
Contrast	Digital
Horizontal Position	Digital
Vertical Position	Digital
Phase	Digital
Clock	Digital
Display Mode Setup	Use EEPROM to save settings in memory
OSD Format	20 characters x 9 rows

Power Management

Mode	Power Consumption*	AC Input	LED Color
On	75W maximum	240 VAC	Green
Off	5W maximum	240 VAC	Orange
Soft switch off	5W maximum	240 VAC	Dark
Disconnected	5W maximum	240 VAC	Orange: Standby, Suspend, Off Dark: DC Power off

* Meeting VESA DPMS requirements measured from AC Input end of AC power cord.

Sync Input

Signal	Separate TTL compatible horizontal and vertical synchronization
Polarity	Positive and negative

Plug & Play Supports VESA DDC1 and DDC2B functions

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External Connection

Power Input (AC input)	AC socket
Video Cable	1.8M with 15-pin D-sub connector
Audio Cable	1.8M with Stereo Jack

Environment

Operating Condition:	Temperature	5°C to 40°C/41°F to 104°F
	Relative Humidity	20% to 85%
Storage Condition:	Temperature	-20°C to 60° C/-4°F to140° F
	Relative Humidity	5% to 85%

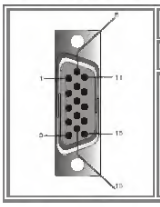
Power Supply (AC Input)

Input Voltage	Single phase, 100 ~ 240VAC, 50 / 60 Hz
Input Current	1.2 A maximum

Size and Weight

Dimensions	518 (W) x 333 (H) x 198 (D) mm
Net Weight	5 ± 0.3 kg
Gross Weight	6.8 ± 0.3 kg

Pin Assignment



Signal		Signal		Signal	
PIN	*Description*	*PIN*	*Description*	*PIN*	*Description*
1	Red	6	Red Rtn	11	NC
2	Green	7	Green Rtn	12	SDA
3	Blue	8	Blue Rtn	13	H. Sync.
4	NC	9	+5V	14	V. Sync.
5	Digital GND	10	Hot Plug Detect	15	SCL

3.2 Standard Timing Table

If the selected timing is NOT included in table below, this LCD monitor will use the most suitable available timing.

Mode	Resolution	Total	Nominal Frequency (KHz)	Sync Polarity	Nominal Freq. (Hz)	Sync Polarity	Nominal Pixel Clock (MHz)
			Horizontal		Vertical		
VESA MODES							
VGA	640x480@60Hz	800 x 525	31.469	N	59.940	N	25.175
	640x480@72Hz	832 x 520	37.861	N	72.809	N	31.500
	640x480@75Hz	840 x 500	37.500	N	75.00	N	31.500
SVGA	800x600@56Hz	1024 x 625	35.156	N/P	56.250	N/P	36.000
	800x600@60Hz	1056 x 628	37.879	P	60.317	P	40.000
	800x600@72Hz	1040 x 666	48.077	P	72.188	P	50.000
	800x600@75Hz	1056x625	46.875	P	75.000	P	49.500
XGA	1024x768@60Hz	1344x806	48.363	N	60.004	N	65.000
	1024x768@70Hz	1328x806	56.476	N	70.069	N	75.000
	1024x768@75Hz	1312x800	60.023	P	75.029	P	78.750
WXGA	1280x768@60Hz	1664x798	47.776	N	59.87	P	79.5
IBM MODES							
DOS*	720x400@70Hz	900 x 449	31.469	N	70.087	P	28.322
DOS	640x350@70Hz	800 x 449	31.469	P	70.087	N	25.175

Note: *When the in put display mode is not 1280 x 768, the image is smoothly expanded to 1280 x 768 dots with the scaling engine. After expansion from 650x350, 640x400, 640x480, 720x400, 832x624, 800x600, and 1024x768 resolution, the text may look not so sharp, and the Graphics may look not so proportional.*

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3.3 Troubleshooting

This LCD Monitor has pre-adjusted using factory standard VGA timings. Due to the output timing differences among various VGA cards in the market, users may initially experience an unstable or unclear display whenever a new display mode or new VGA card is selected.

Attention

This LCD Monitor Supports Multiple VGA Modes.

Refer to the Standard Timing Table for a listing of modes supported by this LCD Monitor.

PROBLEM Picture is unclear and unstable

The picture is unclear and unstable, please perform the following steps :

1. Enter PC to "Shut Down Windows" status while you're in MS-Windows environment.
2. Check the screen to see if there's any black vertical stripes appear. If there are, take advantage of the "Clock" function in OSD menu and adjust (by increment or decrement numbers) until those bars disappear.
3. Move to "Phase" function in OSD menu again and adjust the monitor screen to its most clear display.
4. Click "No" on "Shut Down Windows" and back to the normal PC operating environment.

PROBLEM There is no picture on LCD Monitor

If there's no picture on the LCD Monitor, please perform the following steps:

1. Make sure the power indicator on the LCD Monitor is ON, all connections are secured, and the system is running on the correct timing. Refer to Chapter 3 for information on timing.
2. Turn off the LCD Monitor and then turn it back on again. If there is still no picture, press the Adjustment Control button several times.
3. If step 2 doesn't work, connect your PC system to another external CRT. If your PC system Functions properly with a CRT Monitor but it does not function with the LCD Monitor, the output timing of the VGA card may be out of the LCD's synchronous range. Please change to an alternative mode listed in the Standard Timing Table or replace the VGA card, and then repeat steps 1 and 2.

PROBLEM There is no picture on LCD Monitor

If you have chosen an output timing that is outside of the LCD Monitor's synchronous range (Horizontal: 24 ~ 60 KHz and Vertical: 56 ~ 75 Hz), the OSD will display a "***Out of Range***" message. Choose a mode that is supported by your LCD Monitor.

Also, if the signal cable is not connected to LCD monitor at all or properly, the monitor screen will display a message "***No Input Signal***".

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